**Listing of the claims:**

1. (Previously Presented) A reactor system for the oxidation of ethylene to ethylene oxide comprising:

an elongated tube having a reaction zoned defined by a tube length and a tube diameter, the tube diameter being at least 28 mm; wherein contained within the reaction zone is a packed bed of shaped support material; and wherein the shaped support material has a hollow cylinder geometric configuration defined by a length an outside diameter and an inside diameter such that the ratio of the length to the outside diameter is in the range of from about 0.5 to about 2, and further such the ratio of the outside diameter to the inside diameter exceeds about 2.7, and the ratio of the tube diameter to the outside diameter is in the range of from about 2 to about 10; wherein the outside diameter is in the range of from about 7.4 mm to about 11.6 mm.

2. (Previously Presented) The reactor system as recited in claim 1, wherein

the tube diameter is in the range of from 28 mm to about 60 mm, and

the ratio of the outside diameter to the inside diameter is

in the range of from about 3 to about 23.

3. (Previously Presented) The reactor system as recited in claim 1, wherein the tube diameter is in the range of from 28 mm to about 60 mm, and

the ratio of the outside diameter to the inside diameter is in the range of from about 3.3 to about 10.

4. (Previously Presented) The reactor system as recited in claim 1, wherein the tube diameter is about 39 mm.

5. (Canceled).

6. (Canceled).

7. (Canceled).

8. (Previously Presented) The reactor system as recited in claim 1, wherein the tube length is in the range of from about 3 to about 15 meters.

9. (Previously Presented) The reactor system as recited in claim 1, wherein at least 50 percent of the packed bed comprises the shaped support material.

10. (Previously Presented) The reactor system as recited in claim 1, wherein the ratio of the tube diameter to the outside diameter is in the range of from about 2.5 to about 7.5.

11. (Previously Presented) The reactor system as recited in claim 10, wherein the ratio of the tube diameter to the outside diameter is in the range of from about 3 to about 5.

12. (Previously Presented) The reactor system as recited in claim 1, wherein the shaped support material comprises predominantly alpha-alumina, and the packed bed has a tube packing density greater than about 550 kg per cubic meter.

13. (Previously Presented) The reactor system as recited in claim 1, wherein the shaped support material supports a catalytic component.

14. (Previously Presented) The reactor system as recited in claim 13, wherein the catalytic component comprises silver.

15-18. (Canceled)

19. (Previously Presented) A reactor system for the oxidation of ethylene to ethylene oxide comprising:

an elongated tube having a reaction zone defined by a tube length and a tube diameter, the tube diameter being at least 28 mm; wherein contained within the reaction zone is a packed bed of shaped support material; and wherein the shaped support material has a hollow cylinder geometric configuration defined by a length, an outside diameter and an inside diameter such that

the ratio of the length to the outside diameter is in the range of from about 0.5 to about 2, and

the ratio of the outside diameter to the inside diameter provides a positive test result, and further such that

the ratio of the tube diameter to the outside diameter is in the range of from about 2 to about 10;

wherein the ratio of the outside diameter to the inside diameter exceeds about 2.7;

wherein the outside diameter is in the range of from about 7.4 mm to about 11.6 mm ; and

wherein the "positive test result" is defined by a decrease of the quotient of a numerical value of the pressure drop per unit length of the packed bed and a numerical

value of the packing density, which numerical values are obtained by testing the packed bed in a turbulent flow of nitrogen gas at a pressure of 1.136 MPa (150 psig), relative to a comparison quotient of numerical values obtained in an identical manner, except that the hollow cylinder geometric configuration of the same support material is defined by

a nominal outside diameter of 8 mm and a nominal inside diameter of 3.2 mm, and

a ratio of the nominal length to the nominal outside diameter of 1.

20. (Canceled).

21. (Previously Presented) The reactor system as recited in claim 19, wherein

the tube diameter is in the range of from 28 mm to about 60 mm, and

the ratio of the outside diameter to the inside diameter is in the range of from about 3 to about 23.

22. (Previously Presented) The reactor system as recited in claim 19, wherein the tube diameter is in the range of from 28 mm to about 60 mm, and
the ratio of the outside diameter to the inside diameter is in the range of from about 3.3 to about 10.

23. (Previously Presented) The reactor system as recited in claim 19, wherein the tube diameter is about 39 mm.

24. (Canceled).

25. (Canceled).

26. (Canceled).

27. (Previously Presented) The reactor system as recited in claim 19, wherein the tube length is in the range of from about 3 to about 15 meters.

28. (Previously Presented) The reactor system as recited in claim 19, wherein at least 50 percent of the packed bed comprises the shaped support material.

29. (Previously Presented) The reactor system as recited in claim 19, wherein the ratio of the tube diameter to the outside diameter in the range of from about 2.5 to about 7.5.

30. (Previously Presented) The reactor system as recited in claim 29, wherein the ratio of the tube diameter to the outside diameter in the range of from about 3 to about 5.

31. (Previously Presented) The reactor system as recited in claim 19, wherein the shaped support material comprises predominantly alpha-alumina, and the packed bed has a tube packing density greater than about 550 kg per cubic meter.

32. (Previously Presented) The reactor system as recited in claim 19, wherein the shaped support material supports a catalytic component.

33. (Previously Presented) The reactor system as recited in claim 32, wherein the catalytic component comprises silver.

34-36. (Canceled)

37. (Previously Presented) The reactor system as recited in claim 1, wherein the outside diameter is in the range of from about 7.4 to about 8.6 mm and the ratio of the outside diameter to the inside diameter is in the range of from about 3 to about 15.

38. (Previously Presented) The reactor system as recited in claim 1, wherein the outside diameter is in the range of from about 8.4 to about 9.6 mm and the ratio of the outside diameter to the inside diameter is in the range of from about 3 to about 15.

39. (Previously Presented) The reactor system as recited in claim 1, wherein the outside diameter is in the range of from about 9.4 to about 10.6 mm and the ratio of the outside diameter to the inside diameter is in the range of from about 4 to about 10.

40. (Previously Presented) The reactor system as recited in claim 1, wherein the outside diameter is in the range of from about 10.4 to about 11.6 mm and the ratio of the outside diameter to the inside diameter is in the range of from about 4.6 to about 10.

41. (Previously Presented) The reactor system as recited in claim 19, wherein the outside diameter is in the range of from about 7.4 to about 8.6 mm and the ratio of the outside diameter to the inside diameter is in the range of from about 3 to about 15.

42. (Previously Presented) The reactor system as recited in claim 19, wherein the outside diameter is in the range of from about 8.4 to about 9.6 mm and the ratio of the outside diameter to the inside diameter is in the range of from about 3 to about 15.

43. (Previously Presented) The reactor system as recited in claim 19, wherein the outside diameter is in the range of from about 9.4 to about 10.6 mm and the ratio of the outside diameter to the inside diameter is in the range of from about 4 to about 10.